

CLAIMS

What is claimed is:

1. A method comprising:
 - receiving at least one high-level request regarding at least one designated device of a plurality of devices from at least one application program;
 - translating the at least one high-level request to at least one low-level request; and
 - communicating the at least one low-level request to at least one device driver associated with at least one device.
2. The method of claim 1 further comprising:
 - receiving at least one low-level message from at least one device; and
 - translating the at least one low-level message to at least one high-level message; and
 - forwarding the at least one high-level message to the at least one application program that sent the at least one high-level request.
3. The method of claim 1 wherein the at least one request comprises at least one of a status request and a control request.
4. The method of claim 1 wherein receiving the request is achieved via one of /proc file system, ioctl, system call and direct function call.
5. The method of claim 1 further comprising:
 - regularly gathering a plurality of statistics regarding the plurality of devices.
6. The method of claim 5 further comprising:
 - periodically forwarding a high-level message reporting the plurality of statistics regarding the plurality of devices to the at least one application program.

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7. The method of claim 5 further comprising:
 - determining which of the plurality of devices issued errors that exceed a threshold number of errors based on evaluation of the plurality of statistics; and
 - sending shut-down messages to each of those of the plurality of devices that issued errors that exceed a threshold number of errors.
 8. The method of claim 5 further comprising:
 - retrieving a plurality of configuration information from a primary device of the plurality of devices; and
 - applying the configuration information to a secondary device when the primary device is taken off-line.
 9. A system comprising:
 - a processor and a memory coupled to a bus;
 - at least one application program; and
 - a multiplexor to forward requests from the at least one application program to at least one of a plurality of device drivers for corresponding devices, and to forward information received from the device drivers regarding the devices to the application program.
 10. The system of claim 9 wherein the multiplexor comprises:
 - a high-level interface to receive the requests from the application program; and
 - a low-level interface to receive the information from the device drivers.
 11. The system of claim 9 wherein the information received from the device drivers is translated into a high-level message format before being forwarded.
 12. The system of claim 9 wherein the requests comprise at least one of a status request and a control request.

13. The system of claim 9 wherein the application program is coupled for communication with the multiplexor via one of /proc file system, ioctl, system call, and direct function call.
14. The system of claim 9 wherein the multiplexor communicates with the plurality of device drivers via function calls.
15. A machine readable medium having stored thereon instructions which when executed by a processor cause a machine to perform operations comprising:
- receiving at least one high-level request regarding at least one designated device of a plurality of devices from at least one application program;
 - translating the at least one high-level request to at least one low-level request; and
 - communicating the at least one low-level request to at least one device driver associated with at least one device.
16. The machine readable medium of claim 15, wherein the instructions cause the machine to perform operations further comprising:
- receiving at least one low-level message from at least one device;
 - translating the at least one low-level message to at least one high-level message; and
 - forwarding the at least one high-level message to the at least one application program that sent the at least one high-level request.
17. The machine readable medium of claim 15 wherein the at least one request comprises at least one of a status request and a control request.
18. The machine readable medium of claim 15, wherein the instructions cause the machine to perform operations further comprising:
- regularly gathering a plurality of statistics regarding the plurality of devices.

19. The machine readable medium of claim 18, wherein the instructions cause the machine to perform operations further comprising:

periodically forwarding a high-level message reporting the plurality of statistics regarding the plurality of devices to the at least one application program.

20. The machine readable medium of claim 15, wherein the instructions cause the machine to perform operations further comprising:

determining which of the plurality of devices issued errors that exceed a threshold number of errors based on evaluation of the plurality of statistics; and
sending shut-down messages to each of those of the plurality of devices that issued errors that exceed a threshold number of errors.

21. The machine readable medium of claim 15, wherein the instructions cause the machine to perform operations further comprising:

retrieving a plurality of configuration information from a primary device of the plurality of devices; and
applying the configuration information to a secondary device when the primary device is taken off-line.

22. A method comprising:

receiving a high-level request regarding a class of devices from an application program;
translating the high-level request into a least one low-level request; and
communicating the at least one low-level request to each of a plurality of devices in the class of devices via at least one device driver associated with the plurality of devices.

23. The method of claim 22 further comprising:

receiving at least one low-level message from at least one device;
preparing at least one low-level request to other devices responsive to the at least one low-level message;

receiving a group of low-level messages from those of the plurality of devices that received the low-level request;
processing the group of low-level messages to create a single high-level message; and
forwarding the single high-level message to the application program.

24. The method of claim 22 wherein the class of devices comprise a group of digital subscriber line (DSL) devices.

25. The method of claim 24 wherein the group of DSL devices comprise at least two of a DSL modem, a Digital Signal Processor (DSP) device, a plain old telephone system (POTS) device, a synchronous optical network (SONET) hardware, an E1 device, a T3 device, T1 hardware, an asynchronous transfer mode (ATM) device, a very high speed DSL (VDSL) device, and a Gigabit Ethernet device.

26. A method comprising:
providing a multiplexor, including
a high-level interface to receive a plurality of high-level requests from at least one application program, and
a low-level interface to receive a plurality of low-level messages from a plurality of device drivers for the plurality of devices;
the multiplexor configured to
translate the high level requests to a first group of low-level requests of a plurality of low-level requests;
communicate the low-level requests to at least one of the device drivers;
translate the low-level messages to at least one high-level message; and
forward the high-level message to at least one application program.

27. The method of claim 26 wherein the multiplexor is further configured to:
translate the low-level messages to a second group of low-level requests.

28. The method of claim 26 wherein the devices are a plurality of digital subscriber line (DSL) devices.